

## **REMARKS**

This paper is submitted in reply to the Office Action dated April 4, 2006. As July 4, 2006 is a holiday, the period for response extends up to and includes July 5, 2006, and this paper is thus timely filed. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, the specification was objected to for failing to provide proper antecedent basis for the claimed subject matter. In addition, claims 1 and 11 were objected to based on informalities. Furthermore, claims 1, 5, 16 and 19-23 were rejected under 35 U.S.C. § 101. Additionally, claims 1, 11 and 16 were rejected under 35 U.S.C. § 102(c) as being anticipated by U.S. Patent Application Publication No. 2004/0210563 to Zait et al. Furthermore, claims 2-4, 9-10, 12-15 and 17-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zait et al. in view of U.S. Patent No. 5,345,585 to Iyer et al.; claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Zait et al. in view of Admitted Prior Art in Background of Specifications (Background), and claim 6-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zait et al. and Background further in view of Iyer et al.

Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained. Applicants have now amended claims 1, 5, 11 and 21-23, and Applicants respectfully submit that no new matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed.

As an initial matter with regard to the specification, the Examiner indicated that there was improper antecedent basis for the claimed subject matter, specifically, the join-from file and the joint-to file of claim 5. While Applicants submit that the terminology "join-from file" and "join-to file" would be understood by one of ordinary skill in the art, Applicants have nonetheless amended claim 5 to now recite first, second and third tables. Support for this amendment may be found, for example, on pages 12-15 of the Application, where the example query given includes joins between the same first table (table X) with second and third tables (tables Y and Z). Applicants respectfully submit

that the specification is now proper, and withdrawal of the objection is respectfully requested.

Next with regard to the claim objections, the Examiner will note that Applicants have amended claim 1 to replace the semicolon with a comma in line 2, and amended claim 11 to replace the words "an other" with "another", as required by the Examiner. Withdrawal of the objections to claims 1 and 11 are therefore respectfully requested.

Next with regard to the § 101 rejections, and specifically the rejection of claim 1, the Examiner argues that no tangible result is recited in the claim. However, Applicants submit that the collection of performance statistics is indeed a tangible result. Moreover, the claim recites "running [a] query", which in a database environment, is undoubtedly a tangible result. Withdrawal of the § 101 rejection of claim 1 is therefore respectfully requested.

With respect to claim 16, the Examiner again argues that no tangible result is recited in the claim. Given that claim 16 recites an apparatus comprising a memory and a processor, Applicants submit that the claim meets the requirements of 35 U.S.C. § 101 irrespective of whether or not a "tangible result" is recited. Nonetheless, Applicants note that, as with claim 1, claim 16 recites both the collection of performance statistics and "running [a] query", both of which in a database environment represent tangible results. Withdrawal of the § 101 rejection of claim 16 is therefore respectfully requested.

With respect to claim 21, the Examiner argues that digital and analog communication links are not statutory. The Examiner will note that claim 21 has been amended to recite a "tangible computer readable medium," which Applicants submit addresses the Examiner's concerns with regard to digital and analog communication links. Withdrawal of the § 101 rejection of claim 21 is therefore respectfully requested.

Next, turning to the art-based rejections, Applicants note that all pending claims are rejected at least in part on the Zait et al. U.S. Patent Application Publication reference, which has an earliest effective filing date of April 21, 2003. Applicants respectfully submit, however, that the Zait et al. reference is not prior art under 35 U.S.C. §102(c) (or any other section of 35 U.S.C. §102), as it was not filed in the United States before Applicants' date of invention, which was prior to April 21, 2003. To establish Applicants'

prior date of invention, Applicants have enclosed herewith the Declarations of both inventors, namely, Paul Reuben Day and Brian Robert Muras, under 37 C.F.R. § 1.131, which establish a date of invention that is prior to the filing date of April 21, 2003 for the Zait et al. reference.

In particular, the enclosed Declarations establish prior conception, diligence and reduction to practice on the part of the inventors prior to the effective filing date of the Zait et al. reference. As such, the Zait et al. reference does not qualify as prior art under 35 U.S.C. § 102(e). Given that all of the Examiner's rejections depend at least in part on the Zait et al. reference, Applicants respectfully submit that all of the Examiner's rejections should be withdrawn. Moreover, as the Examiner has cited no other references purporting to disclose or suggest the subject matter relied upon in the Zait et al. reference in rejecting the claimed invention, Applicants submit that all claims are now in condition for allowance.

In addition, with respect to independent claims 12 and 21 and dependent claims 2-4, 6-10, 13-15, 17-20 and 22-23, which are rejected on the combination of Zait et al. and Iyer et al., Applicants additionally traverse the Examiner's rejections on the basis that, even if Zait et al. were prior art against the instant Application, the combination of these references would still fail to render these claims obvious.

For example, at least with respect to claims 2, 6-9, 12, 17 and 21, each of these claims recite either the selection of a preferred join order, or a change in join order, for a query based upon performance statistics collected during running of the query. Put another way, the statistics collected during execution of a query are used to optimize the very same execution of the query. None of the art cited by the Examiner, most notably Zait et al. and Iyer et al., discloses or suggests such a concept. Zait et al. collects statistics during the execution of a query, but the collected statistics are only used to optimize the performance of later queries. Paragraphs [0034]-[0036] disclose optimizing a query statement, but it is clear from that passage that the optimization will only apply to further executions of that statement, rather than the execution during which the statistics are collected. Likewise, Iyer et al. discloses optimizing join order based upon a cost estimate, but does not base the cost estimate on statistics collected during the same execution of the

query. In short, none of the art of record appreciates that join order may be selected dynamically during execution of a query based upon statistics collected during the same execution of that query. Accordingly, even if Zait et al. were properly citeable against the instant Application, at least claims 2, 6-9, 12, 17 and 20 would still be distinguishable over the art cited by the Examiner.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

July 5, 2006

Date

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